

July 8, 2003

California Energy Commission  
Docket Office  
Attn: Docket No. 02-IEP-01  
1515 Ninth Street, MS-4  
Sacramento, CA 95814-5512

**VIA EMAIL AND EXPRESS MAIL**

**Re: Pacific Gas and Electric Company's Comments On  
2003 Integrated Energy Policy Report  
2003 Environmental Performance Report**

Pacific Gas and Electric (PG&E) would like to provide the following comments on the CEC's staff draft report on the 2003 Environmental Performance Report, relating to the impacts of California electric generating facilities.

Thank you for considering our comments. Please feel free to contact me at (415) 973-6463 if you have any questions about this matter.

Sincerely,

Les Guliasi  
Director, State Agency Relations

cc: Chairman William J. Keese  
Commissioner John L. Geesman  
Commissioner James D. Boyd  
Commissioner Robert Pernell  
Commissioner Arthur H. Rosenfeld  
Kevin Kennedy  
Jim McKinney

**BEFORE THE CALIFORNIA ENERGY COMMISSION  
OF THE STATE OF CALIFORNIA**

In the Matter of:  
Integrated Energy Policy Report  
2003 Environmental Performance Report

) Docket 02-IEP-01  
)  
) NOTICE OF:  
) JOINT 2003 ENVIRONMENTAL  
) PERFORMANCE REPORT

**COMMENTS OF  
PACIFIC GAS AND ELECTRIC COMPANY**

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## **I. General Comments – Environmental Performance**

The draft Environmental Performance Report is intended to assess the environmental performance and related impacts of California's electric generation facilities, and updates the status and trends that were initially reported in the 2001 Environmental Performance Report. In this filing, Pacific Gas and Electric offers the staff general and specific comments on the report, with particular emphasis on the potential environmental impacts of hydroelectric generation.

### **1. Hydro**

The draft report presents a rather uneven view of the environmental effects associated with the hydroelectric plants in the State. At pages 63 to 66, for example, the draft report notes in general terms that, from time to time, the operation of many of the hydroelectric facilities in the State adversely effects available fishery habitat. The draft report then proceeds to note that with the more and more such facilities due for relicensing review at the Federal Energy Regulatory Commission there will be opportunities to modify the applicable licenses so as to require higher minimum flows for fishery purposes and perhaps even to achieve flows at these facilities which will more closely mimic the original hydrograph of the river.

Nowhere, however, does the draft report appear to recognize that these kind of modifications in the operation of hydroelectric facilities have environmental costs associated with them. Such flow modifications, for example, will invariably result in a loss of generation at these facilities - a loss which will invariably translate into an increase in the generation of electric energy at fossil-fired electric plants. Since the draft report devotes considerable attention to the impacts of the operation of fossil-fired plants on air quality, it appears rather strange that the draft report should fail to note the likely negative effects on air quality which will be associated with the kind of modifications the draft report seeks to impose on hydroelectric facilities.

In most respects the draft report appears to try to present a balanced assessment of the environmental effects associated with the development of the State's electric power system. But in the case of its discussion of the environmental impacts of the State's hydroelectric facilities the discussion in the report does not reflect that kind of balanced presentation. We would accordingly urge that appropriate revisions be made in the final version of the report to reflect the environmental trade-offs associated with the State's hydroelectric facilities.

### **2. Other Areas**

PG&E offers some comments on the use of consistent and industry-standard terms for energy production and for discussion of air pollutants and other emissions. We also discuss some issues related to gas and electric transmission lines.

## II. Specific Comments – Environmental Performance:

### 1. Air Resources, pp. ii, 29 and 33, Executive Summary, Summary of Findings and Text Sections

Comments: Information on the role of non fossil-fueled fired generation in benefiting California's air quality should be included in these sections, e.g. the contributions made by solar, wind, nuclear and hydroelectric resources. This is a key environmental performance indicator related to the electric resource portfolio.

For example, hydro makes up 10-20% of the electric energy portfolio of the state. Use of Pacific Gas and Electric Company's 3,896 MW of hydropower makes it possible to avoid annual emissions of 7.4 million tons of carbon dioxide, 2,900 tons of nitrogen oxide, 3,400 tons of carbon monoxide and avoids emissions during the peak times of energy demand, when ozone or smog levels are the highest.

#### **Air Resources, p. 31.**

Labels CO<sub>2</sub> as a pollutant

Comments: It is not standard to refer to CO<sub>2</sub> as a pollutant. Pollutant has specific meanings under the state and federal clean air acts. Additionally, it would be useful to reflect the emission profile of imported electricity to fully reflect the global effects of in-state electricity use.

### 2. Biological Resources p. iv, 53, 63 - Impacts from Hydropower: ... "Very few CA hydropower projects have adequate, as currently defined, fish passage for migrating salmon and steelhead. Hydropower impacts to salmon, steelhead, native trout and other species continue to be significant."

Comments: In licensing hydropower projects, FERC is required to include conditions for the protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), after considering recommendations from the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and state fish and wildlife agencies. Once issued by FERC, such fish and wildlife protection provisions are mandatory license conditions. In addition, most licenses contain a provision that allows FERC to require the licensee to modify project structures or operations for the conservation and development of fish and wildlife resources, either upon FERC's own motion or upon recommendation of a federal or state resource agency.

Energy facility operators also have an ongoing obligation to comply with the federal Endangered Species Act (ESA). Before owners of hydropower projects can take any action requiring discretionary approval by a federal agency, the agency must consult with the proper fish and wildlife agencies to determine if the action will jeopardize listed species. Consultations address potential impacts, avoidance, minimization, and appropriate mitigation measures for potential impacts to listed species, such as salmon and steelhead.

Pacific Gas and Electric Company is currently involved in several consultations with National Marine Fisheries Service to evaluate appropriate measures to protect salmon and steelhead at selected hydro projects. For many of Pacific Gas and Electric Company's hydropower projects, however, the presence of major federal and state dams on the Sacramento and San Joaquin Rivers, which are critical to the state's water supply system, limits the reaches where salmon and steelhead can migrate.

**Biological Resources, Impacts on Terrestrial Habitats and Species**, p. 57, "If all energy related areas are taken into consideration, the least efficient use of land is hydropower, ... Although hydropower reservoirs eliminated riverine, riparian and terrestrial habitats, they can provide habitat for other species of fish and wildlife."

Comments: The conclusion that the least efficient use of land is hydropower just because hydro projects may encompass a larger land area than other generation resources is misinformed. In licensing hydropower projects, FERC is required to adopt the project best adapted to a comprehensive plan for improving or developing a waterway, taking into consideration a multitude of potential uses including waterpower development, adequate protection, mitigation and enhancement of fish and wildlife (including related spawning grounds and habitat), irrigation, flood control, water supply and recreational and other purposes. Therefore, the lands associated with hydropower projects are operated in accordance with licenses that take into account the most efficient and beneficial use of land after carefully balancing the many potential uses.

**Biological Resources, Hydropower Impacts to Biological Resources**, p. 63, "The Mokelumne River and Rock Creek projects are examples of projects that reached a consensus, ... "is included in the box titled Consensus Difficult to Reach in Hydropower Restoration/Conservation Efforts, p. 65.

Comments: The Mokelumne and Rock-Creek Cresta Projects should be removed from the section titled Consensus Difficult to Reach and be featured in a section called model projects for demonstrating how to reach collaborative resolutions.

### **Biological Resources, Gas and Electric Transmission Lines**

**Page iii and 73:** "...electric transmission lines and...natural gas pipeline rights-of-way can contribute to habitat loss, fragmentation and degradation."

Comments: Habitat and species losses are usually temporary and minimal, through the construction of the facilities. Following construction the habitat is restored and available to the sensitive species. PG&E's infrastructure actually provides habitat since it cannot be developed. Our linear facilities sometimes provide the last remaining habitat due to growth and development all around, e.g. Antioch Dunes National Wildlife Refuge. Finally, maintenance activities also help eliminate competing non-native vegetation to allow rare plants to thrive. A few locations along our transmission lines actually are home to native plant conservation areas that were preserved as a result of our good operations.

## **Biological Resources, Page 76 regarding Avian fatalities:**

This whole section is confusing and not verifiable. It's possible that collisions are confused with electrocutions. Please include information from the Avian Powerline Interaction Committee (APLIC). APLIC is the industry standard committee that has published the state of the art reference on collisions and electrocutions. APLIC is also developing data systems for reporting and working cooperatively with the US Fish and Wildlife Service to develop an "avian protection plan" standard for utilities.

- 3. Water Resources, p. v, 84, 99** – “Hydroelectric facilities can cause permanent alterations to stream flows, raise water temperatures, alter dissolved oxygen and nitrogen levels, and cause changes to the aquatic environment. As of 2003, only a small portion of California’s hydrosystem meets current state water quality standards. Only 6 of 119 projects licensed by FERC have Section 401 Clean Water Act certification from the State Water Resources Control Board and three more are nearly complete.”

Comments: The SWRCB has the responsibility to provide a water quality certification under the Clean Water Act Section 401 for any project requiring a federal license or permit, such as a FERC license for a hydro project, where the project may result any discharge into any navigable waters. The SWRCB has reviewed 17 out of 26 of Pacific Gas and Electric Company’s federally licensed hydro projects and either issued a 401 certification or waived the certification; 3 other applications are pending and 2 more applications will be filed within the year.

As noted above, in issuing licenses FERC is also obligated to include license conditions for the protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), based on recommendations from federal and state fish and wildlife agencies. In addition, most FERC licenses contain provisions that allow FERC to reopen an existing license and require changes in project facilities or operations for the conservation and development of fish and wildlife, either upon FERC own motion or upon the recommendation of a state or federal resource agency.

**Executive Summary, Conclusions**, p. vii, 55, “Impacts to aquatic ecosystems continue to be the most difficult to understand scientifically, and the most difficult to alleviate. For example, hydropower does not contribute to air quality impacts, but aquatic ecosystems at a watershed level have been severely degraded by hydropower development and operation.”

Comments: There is no evidence to suggest that aquatic ecosystems have been severely degraded by hydropower development and operation. Hydropower facilities are operated in a way to protect and enhance aquatic ecosystems, while enhancing other beneficial uses of the water. Reservoirs associated with hydropower have created additional habitat for many species of fish and wildlife.

### **III. General Comments – Electric Supply Section**

Throughout the report, the staff mixes terms such as "load following", "swing", "seasonal cycling" and "power" vs. "capacity" that have specific industry definitions. We suggest that they consider industry standard terms:

- "load following" means the ability to follow load up and down on a daily basis. It is a capability for a single generating station.
- "Seasonal variation" should refer to the difference in load that naturally happens over a year.
- A term like "annual variability in precipitation and snowpack" can be used to refer to the differences that naturally occur in availability of the Hydro resource to produce electricity.
- "Capacity" should refer to the ability to produce electricity (see discussion on p. 12)
- "energy" is generally used correctly, but should refer to action generation or use in MWh
- "power" is a term that should probably only be used in a general sense - aka "power generation".

### **IV. Specific Comments: Electric Supply Section**

Page viii, fourth paragraph – should include CO<sub>2</sub> emissions.

Page 5, last sentence to page 6. Oil fired plants go back to the turn of the century. Most plants built in the 50's and beyond were designed for dual fuel, but used predominantly natural gas.

Page 7, last paragraph: Operating existing units at higher load factors will also contribute to increased overall system efficiency, a phenomenon we see in low hydro or high peak load years.

Page 12, inset: We suggest they use the term "capacity" instead of power, which is more synonymous with industry usage.

Page 16, fourth paragraph misstates the age of the oldest of the operating fossil plants. We suggest they say "that were initially developed from the mid- 50's into the 1970's..."

### **V. Conclusion**

PG&E appreciates this chance to comment on the staff's draft 2003 Environmental Performance Report.